IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

EMERGING AUTOMOTIVE LLC, ***Plaintiff,*** **v.** **KIA CORPORATION, ET. AL.,** ***Defendants.***	**Civil Action No. 2:23-cv-0437-JRG** (Lead Case)
EMERGING AUTOMOTIVE LLC, ***Plaintiff,*** **v.** **TOYOTA MOTOR CORP., ET AL.** ***Defendants.***	**Civil Action No. 2:23-cv-0434-JRG** (Member Case)

DEFENDANTS' PRELIMINARY INVALIDITY CONTENTIONS

Pursuant to Patent Local Rules ("P.R.") 3-3 and 3-4 and the Court's Docket Control Order (Dkt. No. 40), Defendants Toyota Motor Corporation ("TMC"), Toyota Motor North America, Inc. ("TMNA"), and Toyota Motor Sales, U.S.A, Inc. ("TMS"), (collectively, the "Toyota Defendants") hereby make the following initial Invalidity Contentions and provide accompanying document production.

I. Introduction

Plaintiff Emerging Automotive, LLC ("EA" or "Plaintiff") has asserted the following patents in Civil Action No. 2:23-cv-0434-JRG (E.D. Tex.) against the Toyota Defendants: U.S. Patent No. 10,407,026 ("the '026 Patent"), U.S. Patent No. 11,738,659 ("the '659 Patent"), U.S. Patent No. 9,365,188 ("the '188 Patent"), U.S. Patent No. 9,171,268 ("the '268 Patent"), and

U.S. Patent No. 11,396,244 ("the '244 Patent") (collectively, the "Patents-in-Suit"). *See* Plaintiff's Toyota Infringement Contentions, served on January 18, 2024.

Defendants' investigation is ongoing. Defendants serve these disclosures based on information currently available to Defendants at this early stage of these actions. Defendants reserve the right to modify and supplement these disclosures in response to any amendment by Plaintiff to its Infringement Contentions or as Defendants discover additional information in the course of discovery.

This Court has not yet construed any of the terms in the Patents-in-Suit in these actions. Defendants' Invalidity Contentions are based on Defendants' present understanding of the asserted claims and the apparent construction of the claims used by Plaintiff in its Infringement Contentions. Defendants reserve the right to modify or supplement these contentions in response to the Court's construction of the claim terms at issue. Defendants' Invalidity Contentions, including the attached exemplary invalidity claim charts, may reflect alternative positions dependent upon claim construction and scope. These Invalidity Contentions are not an admission by Defendants that the accused products, including any current or past versions of these products, are covered by or infringe the asserted claims. Furthermore, by including prior art that anticipates or renders obvious claims based on Plaintiff's apparent claim construction, Defendants do not thereby adopt Plaintiff's apparent claim construction. These Invalidity Contentions do not represent an agreement with Plaintiff's views as to the meaning, definiteness, written description support for, or enablement of any asserted claim.

Prior art not included in this disclosure may become relevant. Defendants are currently unaware of the extent, if any, to which Plaintiff may contend that certain limitations of the

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asserted claims are not disclosed in the prior art identified by Defendants. Defendants reserve the right to identify other relevant prior art with respect to such allegedly missing limitation(s).

Defendants' exhibits attached hereto cite to particular portions, teachings, and disclosures of the prior art as applied to features of the asserted claims. Persons skilled in the art, however, may view an item of prior art in the context of other publications, literature, products, and understanding. The cited portions of prior art identified herein are exemplary only. Defendants will rely on the entirety of the prior art references listed herein, including uncited portions of those prior art references, as well as additional information including products, documents, materials, and expert testimony.

The references cited herein disclose the elements of the asserted claims explicitly or inherently, and they also demonstrate the state of the art in the relevant time frame. The suggested obviousness combinations are provided in the alternative to Defendants' anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not by itself anticipatory. Further, the combinations listed herein are exemplary and not exhaustive. There are many possible invalidating combinations of the references listed herein and it is not practical, at this early stage, to identify and list all potentially relevant combinations without the benefit of further factual investigation and prior to the claim construction proceedings. This is particularly the case here, where the relevant technical field was mature at the time of the alleged invention(s), the relevant field of art was crowded, and the applicable problems (to the extent there were such problems) and solutions were driven more by commercial and consumer demand than the need to develop any underlying enabling technology.

In addition to the prior art identified below and in the accompanying exemplary invalidity claim charts, Defendants hereby incorporate by reference any additional prior art and invalidity

contentions that have been or will be disclosed in any other action related to any of the Patents-in-Suit. Defendants' incorporation by reference also includes all *inter partes* review proceedings at the U.S. Patent and Trademark Office related to any of the Patents-in-Suit.

Furthermore, regarding the '244 patent, as EA has acknowledged via its filing of a request for a Certificate of Correction, the issued claims of the '244 patent are defective for omitting material limitations. When a claim issues that omits a material limitation, and such omission is not evident on the face of the patent, the patentee cannot assert that claim until it has been corrected by the Patent Office. *Grp. One, Ltd. v. Hallmark Cards, Inc.*, 407 F.3d 1297, 1335 (Fed. Cir. 2005); *H-W Tech., L.C. v. Overstock.com, Inc.*, 758 F.3d 1329 (Fed. Cir. 2014). Nevertheless, even if a Certificate of Correction were to be issued for the '244 patent, the asserted claims of the '244 patent are invalid for at least the reasons explained herein.

II. P.R. 3-3(a): Identification of Prior Art

Defendants identify the following prior art that anticipates one or more asserted claims of the Patents-in-Suit and/or renders one or more claims obvious. Defendants also incorporate by reference each and every prior art reference of record in the prosecution of the Patents-in-Suit and patents or patent applications related to the Patents-in-Suit, as well as the prior art referred to in the specifications of the Patents-in-Suit.

In these contentions, Defendants identify each item of prior art, including: (1) each patent, constituting prior art under pre-AIA 35 U.S.C. §§ 102(a), (b), and/or (e)/ AIA 35 U.S.C. §§ 102(a)(1) and/or (a)(2), by its patent number, country of origin, and date of issue; (2) each non-patent publication, constituting prior art under pre-AIA 35 U.S.C. §§ 102(a) and/or (b)/ AIA 35 U.S.C. §§ 102(a)(1) and/or (a)(2), by its title, date of publication, and, where feasible, author and publisher; (3) pre--AIA 35 U.S.C. § 102(a) and/or (b)/AIA 35 U.S.C. § 102(a)(1) prior art by the item offered for sale or publicly used or known, the date the offer or use took place or the

information became known, and the identity of the person or entity which made the use or which made and received the offer, or the person or entity which made the information known or to whom it was made known; (4) pre-AIA 35 U.S.C. § 102(f) prior art by the name of the person(s) from whom and the circumstances under which the invention or any part of it was derived; and (5) pre-AIA 35 U.S.C. § 102(g) prior art by the identities of the person(s) or entities involved in and the circumstances surrounding the making of the invention before the patent applicant(s), based on currently available information.

Defendants' identification of patents and publications as prior art herein and in the attached exemplary claim charts includes the publications themselves as well as the use of the products and systems described therein. Defendants' investigation continues, but information available to date indicates that such products and systems were (1) known or used in the country before the alleged invention(s) of the claimed subject matter of the asserted claims (and also patented, described in a printed publication, or in public use, on sale, or otherwise available to the public in any country before the earliest effective filing date of the claimed invention), (2) were in public use and/or on sale in this country more than one year before the filing date of the patent, and/or (3) were invented by another who did not abandon, suppress, or conceal, before the alleged invention(s) of the claimed subject matter of the asserted claim. Upon information and belief, these prior art products and systems and their associated references anticipate and/or render obvious each of the asserted claims.

Defendants further intend to rely on inventor admissions concerning the scope of the prior art relevant to the Patents-in-Suit found in, inter alia: the patent prosecution histories for the Patents-in-Suit and related patents, patent applications, and/or re-examinations; any deposition

testimony of the named inventors on the Patents-in-Suit; and the papers and any evidence submitted by Plaintiff in these actions.

A. STATE OF THE ART

Defendants set forth a summary of their current understanding of the state of the art for general subject matter of the Asserted Patents. Defendants expressly reserve the right to rely on each of the prior art references discussed in Sections II.B-G and III below, including exhibits cited therein, with respect to each of the asserted claims. Defendants also reserve the right to rely on the discussions of the state of the art and prior art for the Asserted Patents and their file histories in explaining the state of the art and the references' correspondence with the claims of the Asserted Patents. Defendants further expressly reserve the right to supplement their summary of the state of the art, including for example, by information from any of the authors or named inventors on any of the prior art references, by personnel familiar with systems based on any of the prior art, or by technical experts retained on behalf of any party.

1. State of the Art for the '026, '659, and '188 Patents

The '026 Patent, '659 Patent and the '188 Patents (the "eKey Patents") relate to systems and methods for generating and sharing electronic keys (e-Keys) with users and cloud-based processing systems such that the shared electronic keys are limited in their use, that is, they are provided to particular user(s) with privilege or condition of use limitations.

The eKey Patents are entitled to a priority date no earlier than October 25, 2013, because none of the applications in the priority chain prior to that date fully describe the subject matter of the asserted claims as required by AIA 35 U.S.C. § 112(a) or pre-AIA 35 U.S.C. § 112, ¶1.

By late 2013, the concepts embodied in the asserted claims were well known and commonplace in the automotive and/or mobile electronics marketplaces. For example, the claims

of the ’026 and ’659 patents purport to cover a vehicle with electronics and subsystems for unlocking and starting using an electronic key. Such systems were well known, as evidenced by the prior art cited in the Exhibit A and B claim charts. The claims cover communications circuitry for receiving requests from a mobile device, which was also well known by 2013, as evidenced by the prior art described in the Exhibit A and B claim charts. The claims continue to describe requests to unlock from a mobile device including a “unique access code” or “coded data” which enables the unlocking and starting of the vehicle. Again, this functionality was already well established in the art. The claims further require that the received data be associated with “privileges for use of the vehicle” or include “privilege settings . . . for limiting types of use of the vehicle.” This functionality was also well known in the art.

By late 2013, many systems existed in the art, and were commercially available, permitting, for example, shared vehicle use where customers paid for time-limited access to available vehicles. Mobile applications permitted customers to use their phones to unlock these vehicles remotely. Such access would have necessarily included all the “coded data” and/or “unique access code” limitations of the claims of the ’659 and ’026 patents, and further provided the privilege limitations by restricting the time period for which a customer had access to the vehicle. Other art discloses other kinds of privilege-based criteria for limiting the operation of a vehicle, such as speed, distance, or geographic limitations as described in the Exhibit A and B claim charts.

The claims of the ’188 patent are similar, but directed to the requests for vehicle access being received by a server, which (1) generates a key and transmits that key back to the requesting mobile device, and (2) receives data from a vehicle describing the use of the vehicle in which that key is used. All of these concepts were well known in the art by late 2013 as

evidenced by the Exhibit A, B, and C claim charts attached hereto.

Therefore, as explained below, to the extent that EA argues that any of the primary references do not disclose the above features or operations, it would have been obvious to modify each reference to include them at least because they were well-known, routine, and conventional operations and features that could be readily combined without undue experimentation.

2. State of the Art for the ’268 and ’244 Patents

The ’268 patent and the ’244 patent (the “User Profile” Patents) are directed to methods related to receiving requests to access user profile information stored on a server, processing those requests, and sending user profile information to a vehicle.

The ’268 patent is entitled to a priority date no earlier than October 9, 2013, and the ’244 patent is entitled to a priority date no earlier than March 15, 2013, because none of the respective applications prior to those dates fully describe the subject matter of the asserted claims as required by AIA 35 U.S.C. § 112(a) or pre-AIA 35 U.S.C. § 112, ¶1. EA’s contention that the User Profile patents are entitled to the priority date of provisional application 61/478,436 filed April 22, 2011 is unsupportable because that application, directed to EV charging, does not support the subject matter of the asserted claims. And EA’s contention that the User Profile patents are entitled to the priority date of provisional application 61/745,729 filed December 24, 2012 is unsupportable because that application, also primarily directed to EV charging, does not support the subject matter of the asserted claims. To the extent it could be found that certain claims or certain features find support in the 61/745,729 provisional, priority is assessed on a claim-by-claim basis, and the asserted claims are entitled to a priority date of no earlier than March 15, 2013 or October 9, 2013 based on the respective application dates of the Asserted Patents. Even if, for example, claims 1 and 17 of the ’244 patent could be found to be entitled a

priority date of December 24, 2012, the remaining asserted claims of the ’244 patent are entitled to a priority date of no earlier than March 15, 2013.

Regardless, by the 2012-2013 timeframe, the concepts embodied in the asserted claims were well known as commonplace in the automotive and/or mobile electronics marketplaces. For example, the claims of the ’268 and ’244 patents require a server storing user profile information. This was well established by 2012-2013 as described in the Exhibit D and E claim charts. The claims require identifying a subset of information in such a stored user profile and transferring it to a vehicle. Again, as established in the Exhibit D and E claim charts, such concepts were well developed by 2012-2013. The claims further require the narrow additional element of restricting settings or confirming compatibility of such settings being transferred to a vehicle. This notion was also commonplace and well understood by 2012-2013. Lastly, the concept of vehicles utilizing wireless communication and internal vehicle electronics to receive a profile and implement its settings were well known and established by 2012-2013. Details regarding the state of the art are further described in the Exhibit D and E claim charts attached hereto.

Therefore, as explained below, to the extent that EA argues that any of the primary references do not disclose the above features or operations, it would have been obvious to modify each reference to include them at least because they were well-known, routine, and conventional operations and features.

B. Prior Art Patents and Publications

The following prior art references, including the references identified in Defendants’ obviousness appendices, anticipate and/or render obvious (as primary references, secondary references, and/or general background) the asserted claims of the corresponding patent. These contentions include a series of exemplary charts, attached for each respective primary reference,

as well as additional references and disclosures that render certain claim elements obvious. Based on Defendants' understanding of EA's Infringement Contentions, each exemplary chart identifies specific examples of where each limitation of the asserted claims is found in that reference.

To the extent Plaintiff asserts that any of the primary references does not anticipate the asserted claims, it would have been obvious to combine or modify them with concepts apparent from the state of the art, as explained in Section II.A above, from other prior art, as explained in the exemplary charts and in this document, or in view of the knowledge of one of ordinary skill in the art. Defendants identify the following prior art patents and publications as anticipating or rendering obvious, either alone or in combination with one or more other prior art references, one or more asserted claims of the Patents-in-Suit under pre-AIA 35 U.S.C. §§ 102(a), (b), and/or (e)/ AIA 35 U.S.C. §§ 102(a)(1) and/or (a)(2), and/or 35 U.S.C. § 103.

1. U.S. Patent No. 10,407,026

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
A-1	US	8,737,913	Dec. 22, 2010 / Jun. 28, 2012 / May 27, 2014	Xiao et al.	102(a)(1), (2); Pre-AIA 102(e)
A-2	US	8,089,339	Dec. 21, 2006 / Jun. 26, 2008 / Jan. 3, 2012	Mikan et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
A-3	US	7,912,625	Apr. 29, 2008 / Aug. 21, 2008 / Mar. 22, 2011	Cahoon et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
A-4	US	2014/0129053	Nov. 7, 2012 / May 8, 2014	Kleve et al.	102(a)(2)
A-5	US	2013/0321178	May 29, 2012 / Dec. 5, 2013	Jameel et al.	102(a)(2)
A-6	US	2012/0254960	Mar. 31, 2011 / Oct. 4, 2012	Lortz et al.	102(a)(1), (2); Pre-AIA 102(e)
A-7	US	20100293607	May 14, 2009 / Nov. 18, 2010	Hall et al.	102(a)(1), (2); Pre-AIA 102(a), (e)

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
A-8	US	11,042,816	Oct. 28, 2010 / May 12, 2011 / Jun. 22, 2021	Zaid et al.	102(a)(1), (2); Pre-AIA 102(e)
A-9	JP	2010-126949A	Nov. 26, 2008 / June 10, 2010 / Sept. 25, 2013	Sekiyama et al.	102(a)(1), (2); Pre-AIA 102(a)
A-10	JP	2004-190233A	Dec. 6, 2002 / July 8, 2004 / July 5, 2006	Nomura et al.	102(a)(1), (2); Pre-AIA 102(a), (b)
A-11	JP	2004-088339A	Aug. 26, 2002 / Mar. 18, 2004	Umeda et al.	102(a)(1), (2); Pre-AIA 102(a), (b)
A-12	US	8,977,408	Sep. 23, 2011 / Mar. 10, 2015	Cazanas et al.	102(a)(1), (2)
A-13	US	2013/0099892	Oct. 20, 2011 / Apr. 25, 2013	Tucker et. al	102(a)(1), (2)
A-14	US	2008/0275604	May 2, 2007 / Nov. 6, 2008	Perry et. al	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
A-15	US	8,943,187	Jan. 7, 2013 / Jan. 27, 2015	Saylor	102(a)(2)
A-16	NPL	AutoLinQ	On or before Oct. 15, 2013	Continental	102(a)(1)
A-17	NPL	ZipCar	On or before Oct. 15, 2013	ZipCar	102(a)(1)
A-18	NPL	RelayRides /GM OnStar	On or before Oct. 15, 2013	GM / RelayRides	102(a)(1)
A-19	NPL	Viper SmartStart	On or before Oct. 15, 2013	Directed Electronics	102(a)(1)
A-20	NPL	Getaround	On or before Oct. 15, 2013	Getaround	102(a)(1)
A-21	NPL	Hyundai Blue Link	On or before Oct. 15, 2013	Hyundai	102(a)(1)
A-22	NPL	Kia UVO	On or before Oct. 15, 2013	Kia	102(a)(1)
	US	2010/0178938	Jan. 13, 2009 / Jul. 15, 2010	Ingrassia et al.	102(a)(1), (2); Pre-AIA 102(a), (e)
	US	2006/0136106	Dec. 22, 2004 / Jun. 22, 2006	Patenaude et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2007/0255464	Apr. 26, 2006 / Nov. 1, 2007	Singh et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	5,734,971	May 15, 1995 / Mar. 31, 1998	Thayer et al.	102(a)(1), (2); Pre-AIA 102(a),

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
					(b), (e)
	US	6,064,996	Sep. 29, 1997 / May 16, 2000	Yamaguchi et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)

2. U.S. Patent No. 11,738,659

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
B-1	US	8,737,913	Dec. 22, 2010 / Jun. 28, 2012 / May 27, 2014	Xiao et al.	102(a)(1), (2); Pre-AIA 102(e)
B-2	US	8,089,339	Dec. 21, 2006 / Jun. 26, 2008 / Jan. 3, 2012	Mikan et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
B-3	US	7,912,625	Apr. 29, 2008 / Aug. 21, 2008 / Mar. 22, 2011	Cahoon et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
B-4	US	2014/0129053	Nov. 7, 2012 / May 8, 2014	Kleve et al.	102(a)(2)
B-5	US	2013/0321178	May 29, 2012 / Dec. 5, 2013	Jameel et al.	102(a)(2)
B-6	US	2012/0254960	Mar. 31, 2011 / Oct. 4, 2012	Lortz et al.	102(a)(1), (2); Pre-AIA 102(e)
B-7	US	20100293607	May 14, 2009 / Nov. 18, 2010	Hall et al.	102(a)(1), (2); Pre-AIA 102(a), (e)
B-8	US	11,042,816	Oct. 28, 2010 / May 12, 2011 / Jun. 22, 2021	Zaid et al.	102(a)(1), (2); Pre-AIA 102(e)
B-9	JP	2010-126949A	Nov. 26, 2008 / June 10, 2010 / Sept. 25, 2013	Sekiyama et al.	102(a)(1), (2); Pre-AIA 102(a)
B-10	JP	2004-190233A	Dec. 6, 2002 / July 8, 2004 / July 5, 2006	Nomura et al.	102(a)(1), (2); Pre-AIA 102(a), (b)
B-11	JP	2004-088339A	Aug. 26, 2002 / Mar. 18, 2004	Umeda et al.	102(a)(1), (2); Pre-AIA 102(a), (b)
B-12	US	8,977,408	Sep. 23, 2011 / Mar. 10, 2015	Cazanas et al.	102(a)(1), (2)
B-13	US	2013/0099892	Oct. 20, 2011 / Apr. 25, 2013	Tucker et. al	102(a)(1), (2)

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
B-14	US	2008/0275604	May 2, 2007 / Nov. 6, 2008	Perry et. al	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
B-15	US	8,943,187	Jan. 7, 2013 / Jan. 27, 2015	Saylor	102(a)(2)
B-16	NPL	AutoLinQ	On or before Oct. 15, 2013	Continental	102(a)(1)
B-17	NPL	ZipCar	On or before Oct. 15, 2013	ZipCar	102(a)(1)
B-18	NPL	RelayRides /GM OnStar	On or before Oct. 15, 2013	GM / RelayRides	102(a)(1)
B-19	NPL	Viper SmartStart	On or before Oct. 15, 2013	Directed Electronics	102(a)(1)
B-20	NPL	Getaround	On or before Oct. 15, 2013	Getaround	102(a)(1)
B-21	NPL	Hyundai Blue Link	On or before Oct. 15, 2013	Hyundai	102(a)(1)
B-22	NPL	Kia UVO	On or before Oct. 15, 2013	Kia	102(a)(1)
	US	2010/0178938	Jan. 13, 2009 / Jul. 15, 2010	Ingrassia et al.	102(a)(1), (2); Pre-AIA 102(a), (e)
	US	2006/0136106	Dec. 22, 2004 / Jun. 22, 2006	Patenaude et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2007/0255464	Apr. 26, 2006 / Nov. 1, 2007	Singh et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	5,734,971	May 15, 1995 / Mar. 31, 1998	Thayer et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	6,064,996	Sep. 29, 1997 / May 16, 2000	Yamaguchi et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)

3. U.S. Patent No. 9,365,188

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
C-1	US	8,737,913	Dec. 22, 2010 / Jun. 28, 2012 / May 27, 2014	Xiao et al.	102(a)(1), (2); Pre-AIA 102(e)

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
C-2	US	8,089,339	Dec. 21, 2006 / Jun. 26, 2008 / Jan. 3, 2012	Mikan et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
C-3	US	7,912,625	Apr. 29, 2008 / Aug. 21, 2008 / Mar. 22, 2011	Cahoon et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
C-4	US	2014/0129053	Nov. 7, 2012 / May 8, 2014	Kleve et al.	102(a)(2)
C-5	US	2013/0321178	May 29, 2012 / Dec. 5, 2013	Jameel et al.	102(a)(2)
C-6	US	2012/0254960	Mar. 31, 2011 / Oct. 4, 2012	Lortz et al.	102(a)(1), (2); Pre-AIA 102(e)
C-7	US	20100293607	May 14, 2009 / Nov. 18, 2010	Hall et al.	102(a)(1), (2); Pre-AIA 102(a), (e)
C-8	US	11,042,816	Oct. 28, 2010 / May 12, 2011 / Jun. 22, 2021	Zaid et al.	102(a)(1), (2); Pre-AIA 102(e)
C-9	JP	2010-126949A	Nov. 26, 2008 / June 10, 2010 / Sept. 25, 2013	Sekiyama et al.	102(a)(1), (2); Pre-AIA 102(a)
C-10	JP	2004-190233A	Dec. 6, 2002 / July 8, 2004 / July 5, 2006	Nomura et al.	102(a)(1), (2); Pre-AIA 102(a), (b)
C-11	JP	2004-088339A	Aug. 26, 2002 / Mar. 18, 2004	Umeda et al.	102(a)(1), (2); Pre-AIA 102(a), (b)
C-12	US	8,977,408	Sep. 23, 2011 / Mar. 10, 2015	Cazanas et al.	102(a)(1), (2)
C-13	US	2013/0099892	Oct. 20, 2011 / Apr. 25, 2013	Tucker et. al	102(a)(1), (2)
C-14	US	2008/0275604	May 2, 2007 / Nov. 6, 2008	Perry et. al	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
C-15	US	8,943,187	Jan. 7, 2013 / Jan. 27, 2015	Saylor	102(a)(2)
C-16	NPL	AutoLinQ	On or before Oct. 15, 2013	Continental	102(a)(1)
C-17	NPL	ZipCar	On or before Oct. 15, 2013	ZipCar	102(a)(1)
C-18	NPL	RelayRides /GM OnStar	On or before Oct. 15, 2013	GM / RelayRides	102(a)(1)
C-19	NPL	Viper SmartStart	On or before Oct. 15, 2013	Directed Electronics	102(a)(1)
C-20	NPL	Getaround	On or before Oct. 15, 2013	Getaround	102(a)(1)

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
C-21	NPL	Hyundai Blue Link	On or before Oct. 15, 2013	Hyundai	102(a)(1)
C-22	NPL	Kia UVO	On or before Oct. 15, 2013	Kia	102(a)(1)
	US	2010/0178938	Jan. 13, 2009 / Jul. 15, 2010	Ingrassia et al.	102(a)(1), (2); Pre-AIA 102(a), (e)
	US	2006/0136106	Dec. 22, 2004 / Jun. 22, 2006	Patenaude et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2007/0255464	Apr. 26, 2006 / Nov. 1, 2007	Singh et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	5,734,971	May 15, 1995 / Mar. 31, 1998	Thayer et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	6,064,996	Sep. 29, 1997 / May 16, 2000	Yamaguchi et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)

4. U.S. Patent No. 9,171,268

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
D-1	US	2012/0164989 A1	Dec. 22, 2010 / Jun. 28, 2012 / May 27, 2014	Xiao et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
D-2	US	8,089,339	Dec. 21, 2006 / Jun. 26, 2008 / Jan. 3, 2012	Mikan et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
D-3	US	2014/0129053 A1	Nov. 7, 2012 / May 8, 2014	Kleve et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
D-4	US	2013/0321178 A1	May 29, 2012 / Dec. 5, 2013	Jameel et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
D-5	US	2007/0207789 A1	Mar. 2, 2006 / Sep. 6, 2007 / Jun. 29, 2010	Zellner et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
D-6	US	2011/0137520 A1	Dec. 7, 2009 / Jun. 9, 2011 / Apr. 22, 2014	Rector et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
D-7	US	8,352,282 B2	Jun. 18, 2010 / Nov. 4, 2010 / Jan. 8, 2013	Jensen et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
D-8	US	8,977,408 B1	Sep. 23, 2011 / Mar. 10, 2015	Cazanas et al.	102(a)(1), (2); Pre-AIA 102(a), (e)
D-9	NPL	Ford SYNC	On or before Oct. 9, 2013	Ford	102(a)(1); Pre-AIA 102(b)
D-10	NPL	GM On-Star	On or before Oct. 9, 2013	GM	102(a)(1); Pre-AIA 102(b)
D-11	NPL	Wheelz	On or before Oct. 9, 2013	Wheelz	102(a)(1); Pre-AIA 102(b)
	US	8,463,488 B1	Jun. 24, 2010 / Jun. 11, 2013	Hart	102(a)(1), (2); Pre-AIA 102(a), (e)
	US	2003/0204290 A1	Apr. 10, 2003 / Oct. 30, 2003 / Oct. 26, 2004	Sadler et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2010/0114469 A1	Nov. 5, 2008 / May 6, 2010	Chao et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2011/0035031 A1	Aug. 5, 2009 / Feb. 10, 2011 / Jul. 23, 2013	Faenger et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2008/0275604 A1	May 2, 2007 / Nov. 6, 2008 / Nov. 1, 2011	Perry et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	6,505,780 B1	Dec. 5, 2001 / Jan. 14, 2003	Yassin et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	10,361,802 B1	Feb. 2, 2000 / Jul. 23, 2019	Hoffberg-Borghesani et al.	102(a)(1), (2); Pre-AIA 102(a), (e)
	US	2006/0136106 A1	Dec. 22, 2004 / Jun. 22, 2006 / Jul. 14, 2009	Patenaude et. al	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2007/0255464 A1	Apr. 26, 2006 / Nov. 1, 2007	Singh et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	JP	2012-76627 A	Oct. 1, 2010 / Apr. 19, 2012	Hayashi et al.	102(a)(1); Pre-AIA 102(a), (b)
	US	5,734,971	May 15, 1995 / Mar. 31, 1998	Thayer et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
	US	6,064,996	Sep. 29, 1997 / May 16, 2000	Yamaguchi et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2010/0178938	Jan. 13, 2009 / Jul. 15, 2010	Ingrassia et al.	102(a)(1), (2); Pre-AIA 102(a), (e)
	US	2013/0099892 A1	Oct. 20, 2011 / Apr. 25, 2013 / Feb. 3, 2015	Tucker et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2010/0228405 A1	Jun. 13, 2008 / Sep. 9, 2010	Morgal et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	9,276,737 B2	Mar. 14, 2013 / Sep. 18, 2014 / Mar. 1, 2016	Peirce	102(a)(1), (2); Pre-AIA 102(a), (e)
	US	2003/0144005 A1	Jan. 30, 2002 / Jul. 31, 2003	Videtich	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	NPL	Car-Sharing: Where and How It Succeeds	On or before Oct. 9, 2013	Millard-Ball et al.	102(a)(1); Pre-AIA 102(b)

5. U.S. Patent No. 11,396,244

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
E-1	US	2012/0164989 A1	Dec. 22, 2010 / Jun. 28, 2012 / May 27, 2014	Xiao et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
E-2	US	8,089,339	Dec. 21, 2006 / Jun. 26, 2008 / Jan. 3, 2012	Mikan et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
E-3	US	2014/0129053 A1	Nov. 7, 2012 / May 8, 2014	Kleve et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
E-4	US	2013/0321178 A1	May 29, 2012 / Dec. 5, 2013	Jameel et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
E-5	US	2007/0207789 A1	Mar. 2, 2006 / Sep. 6, 2007 / Jun. 29, 2010	Zellner et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
E-6	US	2011/0137520 A1	Dec. 7, 2009 / Jun. 9, 2011 / Apr. 22, 2014	Rector et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
E-7	US	8,352,282 B2	Jun. 18, 2010 / Nov. 4, 2010 / Jan. 8, 2013	Jensen et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
E-8	US	8,977,408 B1	Sep. 23, 2011 / Mar. 10, 2015	Cazanas et al.	102(a)(1), (2); Pre-AIA 102(a), (e)
E-9	US	2006/0136106 A1	Dec. 22, 2004 / Jun. 22, 2006 / Jul. 14, 2009	Patenaude et. al	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
E-10	NPL	Ford SYNC	On or before Mar. 15, 2013	Ford	102(a)(1); Pre-AIA 102(b)
E-11	NPL	Wheelz	On or before Mar. 15, 2013	Wheelz	102(a)(1); Pre-AIA 102(b)
	NPL	GM On-Star	On or before Mar. 15, 2013	GM	102(a)(1); Pre-AIA 102(b)
	US	8,463,488 B1	Jun. 24, 2010 / Jun. 11, 2013	Hart	102(a)(1), (2); Pre-AIA 102(a), (e)
	US	2003/0204290 A1	Apr. 10, 2003 / Oct. 30, 2003 / Oct. 26, 2004	Sadler et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2010/0114469 A1	Nov. 5, 2008 / May 6, 2010	Chao et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2011/0035031 A1	Aug. 5, 2009 / Feb. 10, 2011 / Jul. 23, 2013	Faenger et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2008/0275604 A1	May 2, 2007 / Nov. 6, 2008 / Nov. 1, 2011	Perry et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	6,505,780 B1	Dec. 5, 2001 / Jan. 14, 2003	Yassin et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	10,361,802 B1	Feb. 2, 2000 / Jul. 23, 2019	Hoffberg-Borghesani et al.	102(a)(1), (2); Pre-AIA 102(a), (e)
	US	2007/0255464 A1	Apr. 26, 2006 / Nov. 1, 2007	Singh et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	JP	2012-76627 A	Oct. 1, 2010 / Apr. 19, 2012	Hayashi et al.	102(a)(1); Pre-AIA 102(a), (b)

Ex.	Country	Name/Patent/ Application No.	Filing/Publication/ Issue Date	Inventor(s)	35 U.S.C. Section 102
	US	5,734,971	May 15, 1995 / Mar. 31, 1998	Thayer et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	6,064,996	Sep. 29, 1997 / May 16, 2000	Yamaguchi et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2010/0178938	Jan. 13, 2009 / Jul. 15, 2010	Ingrassia et al.	102(a)(1), (2); Pre-AIA 102(a), (e)
	US	2013/0099892 A1	Oct. 20, 2011 / Apr. 25, 2013 / Feb. 3, 2015	Tucker et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	2010/0228405 A1	Jun. 13, 2008 / Sep. 9, 2010	Morgal et al.	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	US	9,276,737 B2	Mar. 14, 2013 / Sep. 18, 2014 / Mar. 1, 2016	Peirce	102(a)(1), (2); Pre-AIA 102(a), (e)
	US	2003/0144005 A1	Jan. 30, 2002 / Jul. 31, 2003	Videtich	102(a)(1), (2); Pre-AIA 102(a), (b), (e)
	NPL	Car-Sharing: Where and How It Succeeds	On or before Mar. 15, 2013	Millard-Ball et al.	102(a)(1); Pre-AIA 102(b)

6. Inter Partes and Post Grant Reviews and Ex Parte Reexaminations

Defendants also incorporate by reference any petitions for IPR, PGR, or petitions for *ex parte* reexamination filed against the Asserted Patents, including the Grounds, obviousness combinations, arguments and evidence disclosed therein.

C. Prior Art Public Use/Sales/Offers for Sale

Defendants believe that there may be sales, offers for sale, and public uses of products that qualify as prior art under AIA 35 U.S.C. § 102(a) or pre-AIA, 35 U.S.C. § 102(b)/AIA 35 U.S.C. § 102(a)(1) against one or more of the Patent-in-Suits. The below-identified prior art products include products Defendants are currently aware of following a diligent and reasonable

investigation at this stage of discovery and/or based on public available information. These products may include a number of products sold by Plaintiff or its predecessor entities, and a number of earlier versions or precursors to products that Plaintiff now accuses of infringement in its Infringement Contentions and incorporated the same functionality as those accused products. Details regarding such offers for sale and public uses may be within the possession of third parties from whom Defendants have not yet received discovery. As discovery progresses, Defendants intend and reserve the right to supplement and/or amend the lists below to include additional prior art products that anticipate and/or render the asserted claims obvious.

For the public uses identified herein, Defendants are investigating the identities of the individuals who knew about and/or were involved in the making, first public use, offer for sale and/or sale of these products and systems. Defendants are also investigating the exact date that these products and systems were first made, first publicly used, offered for sale and/or sold. In addition, Defendants are currently investigating the dates of conception and reduction to practice of these products and systems and when these products and systems were first known or used by others. Responsive to their investigation, Defendants may identify additional prior art documents describing these products and systems that may also anticipate and/or render obvious as invalidating printed publications. Any citation to one or more of the identified prior art references, or other prior art references regarding these products and systems, should be construed to constitute not only a citation to the prior art reference itself, but also a reference to the associated products and systems.

Plaintiff has not yet asserted that any secondary considerations support a finding of non-obviousness for any of the Asserted Patents, and Defendants are aware of no such secondary considerations. To the extent that Plaintiff contends that such secondary considerations exist,

Defendants will provide their contentions related to objective indicia of non-obviousness. Moreover, even if Plaintiff were to establish evidence of secondary considerations and a nexus between the secondary considerations and the claims, such secondary considerations would not outweigh obviousness of the asserted claims as demonstrated in these Invalidity Contentions.

Defendants believe that each of the below products was offered for sale, sold, and/or used prior to the respective patent's effective filing date by its respective manufacturer and/or its customers.

1. U.S. Patent No. 10,407,026

The following products were offered for sale, publicly known, and/or publicly used prior to the effective filing date of the '026 Patent:

- Continental AutoLinQ
- GM OnStar / RelayRides
- ZipCar
- Getaround
- Viper SmartStart
- Hyundai Vehicles with Blue Link (e.g., 2012-2013 Santa Fe, Sonata, Veloster, Elantra)
- Kia Vehicles with UVO (e.g., 2012-2013 Sorento)

2. U.S. Patent No. 11,738,659

The following products were offered for sale, publicly known, and/or publicly used prior to the effective filing date of the '659 Patent:

- Continental AutoLinQ
- GM OnStar / RelayRides

- ZipCar
- Getaround
- Viper SmartStart
- Hyundai Vehicles with Blue Link (e.g., 2012-2013 Santa Fe, Sonata, Veloster, Elantra)
- Kia Vehicles with UVO (e.g., 2012-2013 Sorento)

3. U.S. Patent No. 9,365,188

The following products were offered for sale, publicly known, and/or publicly used prior to the effective filing date of the ’188 Patent:

- Continental AutoLinQ
- GM OnStar / RelayRides
- ZipCar
- Getaround
- Viper SmartStart
- Hyundai Vehicles with Blue Link (e.g., 2012-2013 Santa Fe, Sonata, Veloster, Elantra)
- Kia Vehicles with UVO (e.g., 2012-2013 Sorento)

4. U.S. Patent No. 9,171,268

The following products were offered for sale, publicly known, and/or publicly used prior to the asserted priority date of the ’268 Patent:

- GM On-Star
- Ford SYNC
- Wheelz / RelayRides / Turo

- Jasper / Cisco
- Toyota Entune

5. U.S. Patent No. 11,396,244

The following products were offered for sale, publicly known, and/or publicly used prior to the asserted priority date of the ’244 Patent:

- Ford SYNC
- Wheelz / RelayRides / Turo
- Jasper / Cisco
- Toyota Entune

D. Prior art under Pre-AIA 35 U.S.C. § 102(f)

Plaintiff may have in its possession, custody, or control information related to or pertaining to prior art under pre-AIA 35 U.S.C. § 102(f) but has yet to produce that information in discovery. Defendants will supplement these Invalidity Contentions if and when Plaintiff produces such information and Defendants have had the opportunity to obtain and analyze that information. Defendants contend that the Patents-in-Suit are invalid under pre-AIA 35 U.S.C. § 102(f) in the event Defendants obtains evidence that the named inventors of any of the Patents-in-Suit did not invent (either together or in conjunction with other parties) the subject matter claimed therein.

E. Prior art under Pre-AIA 35 U.S.C. § 102(g)

Plaintiff has not provided evidence of conception dates earlier than the filing dates of the Patents-in-Suit or the priority dates listed on the faces of the Patents-in-Suit. Should the Court permit Plaintiff to provide evidence of an earlier conception date, Defendants reserve the right to assert that any of the prior art references identified in the sections above as pre-AIA 35 U.S.C.

§ 102(a) prior art is also pre-AIA 35 U.S.C. § 102(g) prior art. On information and belief, the prior art references identified in the sections above may provide evidence that prior to the effective filing dates the claimed invention was made in this country by another inventor who did not abandon, suppress, or conceal it.

F. Applicants' Admitted Prior Art

Statements made by the Applicants in the specification and/or during prosecution of the Asserted Patents and any related patents/applications, such as in the "Background of the Invention" section that describes the related art known to the Applicants, are admissions that can be relied upon for both anticipation and obviousness determinations, regardless of whether the admitted prior art would otherwise qualify as prior art under the statutory categories set forth in 35 U.S.C. § 102. *See* MPEP §§ 2129 and 608.01(c). To the extent Plaintiff contends that the asserted claims are not invalid as anticipated by and/or obvious in view of the prior art under 35 U.S.C. §§ 102 and 103, Defendants reserve the right to rely on Applicants' "Admitted Prior Art" to demonstrate the invalidity of the asserted claims.

G. Knowledge of One of Ordinary Skill in the Art

The knowledge of one of ordinary skill in the art can be relied upon for both anticipation and obviousness determinations, regardless of the disclosure of particular references described herein. To the extent Plaintiff contends that the asserted claims are not invalid as anticipated by and/or obvious in view of the prior art under 35 U.S.C. §§ 102 and 103, Defendants reserve the right to rely on the knowledge of one of ordinary skill in the art to demonstrate the invalidity of the asserted claims.

III. P.R. 3-3(b) and (c): Anticipation, Obviousness, and Exemplary Claim Charts

Each of the asserted claims of the Patents-in-Suit is anticipated by and/or obvious in view

of one or more of items of prior art identified above in **Sections II.A.-II.G.** and/or identified in the below exhibits, alone or in combination. Pursuant to P.R. 3-3(b) and the Court's Order, Defendants identify the following prior art now known to Defendants that (1) anticipates either expressly or inherently as understood by a person skilled in the art, or (2) renders obvious alone and/or in combination with the prior art identified above as well as the references identified below and in claim chart Exhibits A-E, one or more of the asserted claims of the Patents-in-Suit. The exemplary claim charts attached hereto identify specifically where, in each of the cited references, each element of each asserted claim is found, and/or what one skilled in the art would have understood upon reading the disclosure.

It would have been obvious to one skilled in the art to combine any of these references to arrive at the claimed invention(s) as described in the above-identified exhibits. The combination of familiar elements according to known methods is obvious because any such combination would yield predictable results.

The asserted claims of the Patents-in-Suit are directed to obvious combinations of old and familiar steps or elements, each performing the same function it has long been known to perform. Any such combination of one computer-implemented functional operation with another would yield nothing more than predictable results. That is, the claimed subject matter is obvious because it is nothing more than (i) a combination of prior art elements according to known methods to yield predictable results; (ii) a simple substitution of one known element for another to obtain predictable results; (iii) use of a known technique to improve similar devices (methods, or products) in the same way; (iv) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (v) obvious to try, for example choosing from a finite number of identified, predictable solutions, with a reasonable expectation

of success; (vi) recognizable and predictable results of routine optimization of known result-effective variables; (vii) predictable variations of known work in one field of endeavor for use in either the same field or a different one based on design incentives or other market forces; and/or (viii) subject matter that some teaching, suggestion, or motivation in the prior art would have led one of ordinary skill to modify prior art references or to combine the prior art references' teachings to arrive at the claimed invention.

The Supreme Court has held that the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 127 S. Ct. 1727, 1739 (2007). When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. *Id.* at 1740. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Id.*

In order to determine whether there is an apparent reason to combine the known elements in the fashion claimed by the patent at issue, a court can look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art. *Id.* at 1740-1741. For example, obviousness can be demonstrated by showing there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent's claims. *Id.* at 1743. Any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed. *Id.* Common sense also teaches that familiar items may have obvious uses

beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple references together like pieces of a puzzle. *Id.*

Although Defendants note that there is no longer a rigid requirement regarding motivation to combine under *KSR*, Defendants provide the following statements regarding motivation to combine to comply with P.R. 3-3(b). Multiple teachings, suggestions, and/or reasons to modify any of the references and/or to combine any two or more of the references in Exhibits A, B, C, D, and E come from many sources, including the prior art (specific and as a whole), common knowledge, common sense, predictability, expectations, industry trends, design incentives or need, market demand or pressure, market forces, obvious to try, the nature of the problem faced, and/or knowledge possessed by one of ordinary skill. In addition, it would have been obvious to try combining the prior art references identified in the attached exemplary claim chart exhibits and below because, to the extent any particular claim limitation was not expressly disclosed in any particular prior art reference, it would be obvious to modify the particular prior art reference to include this missing claim element because there were only a finite number of predictable solutions available in relation to such missing express disclosure and/or because known work in one field or endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. The combination of prior art references identified in these contentions would have been obvious because the combination represents the potential options for a combination of structure/functions/features that could be achieved with a reasonable expectation of success in view of the predictability in the computing (and/or automotive) arts in the 2013 timeframe. One of ordinary skill in the art would have been motivated to create, and would have understood the ready availability, of the combinations identified in these contentions using: known methods to yield predictable results; known

techniques performed in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or teaching, suggestion, or motivation in the prior art generally. Also, market forces in the industry, and the desire to improve features and performance, would motivate the addition of features to systems as they become available, become less expensive, become more commonly used, provide better performance, reduce costs, size or weight, or predictably achieve other clearly desirable results.

A. Regarding the eKey Patents ('026, '188, and '659 Patents)

Prior to the alleged invention of the Asserted Patents, persons of ordinary skill in the art were well aware of electronic key technologies for access and use of vehicles, for example in the context of vehicle rental and sharing systems. *See, e.g.,* Kleve '053 at [0003]–[0006] (describing various known vehicle rental and sharing services); Kleve '053 at Abstract ("A vehicle computing system includes a processor programmed and configured to establish communication with a wireless device brought into proximity of a vehicle. . . . The processor may receive user input to activate the vehicle for a rental period. The processor may compare the user input to the received identifier and enable a keyless drive-away of the vehicle if the user input corresponds to the identifier."); Kleve '053 at [0048] ("[T]he vehicle rental micro-business system may generate and deliver virtual keys to the Temporary User."); Sekiyama '949 at [0004]–[0005] ("For example, in valet parking, where an employee moves a vehicle to a predetermined location in a parking lot, lending a dedicated vehicle key to another person may pose a security problem. Furthermore, since the owner of a mobile phone always carries it with him, there is a problem in that it is difficult to lend a personally owned mobile phone to another person. The present invention has been made to solve such problems, and provides an electronic key system that can set limits on the functions that can be executed by an electronic duplicate key when an electronic duplicate key is created."); Nomura '233 at [0001] ("The present invention relates to a vehicle

electronic key system, a vehicle electronic key server, a vehicle electronic key control method, and a program. In particular, the present invention relates to a vehicle electronic key system, a vehicle electronic key server, a vehicle electronic key control method, and a program that contribute to smooth vehicle operation in car sharing."); Zaid '816 at 7:37–47 ("In various embodiments, a method for vehicle access control includes receiving a vehicle reservation from a wireless communication device and providing vehicle access based on the received reservation."); Xiao '913 at Abstract ("Systems and methods for providing a wireless automobile key service are disclosed."); Mikan '339 at Abstract ("Methods and wireless devices for providing secure operation of a vehicle. In one such method, a key for accessing a vehicle is detected, a vehicle operation policy associated with the key is retrieved, and operation of the vehicle consistent with the vehicle operation policy is permitted. The key may be embedded within a wireless device such as a cellular telephone."); Umeda '339 at [0024] ("Vehicle 4 comprises an ID key system 8; this ID key system 8 enables vehicle 4 to perform predetermined operations using mobile phone 7. With this ID key system 8, the mobile phone 7 is used to lock or unlock doors or start an engine, for example. Mobile phone 7 is a wireless telephone that uses public telephone line 6. The mobile phone 7 in this example is a mobile phone owned by someone who is not the vehicle 4 owner; the mobile phone 7 owner is a person to whom permission has been granted to borrow vehicle 4.").

Such persons of ordinary skill would also have known of methods by which such electronic keys could be shared along with setting of permissions and/or restrictions relating to vehicle use, particularly in the context of vehicle rental and sharing applications. *See, e.g.,* Kleve '053 at [0051] ("At 326, the VCS may implement assigned vehicle control limitations during the use of the rental term by mitigating vehicle performance while preventing the

Temporary User to exceed a limitation set by the Owner. The Owner may have the options to set rental restrictions based on, but not limited to, speed, destination location, or load weight limitations. Controlling usage to enforce compliance with the rental agreement terms may be of more importance to a vehicle rental micro-business owner as this may be the only vehicle the Owner possesses."); Xiao '913 at 13:29–38 ("Operator information 602 may further include automobile permissions 616 associated with each operator on the account. In one embodiment, automobile permissions 616 may identify the automobile(s) 112 the operator is permitted to operate in connection with the disclosed wireless automobile key service. For example, in a family account, the father and mother may have permission to operate every automobile 112 on the account. Whereas a child may only have permission to operate the child's automobile 112 or the family automobile 112."); Mikan '339 at 10:43–11:15 ("Local database 303 may include vehicle operation policy 311. Vehicle operation policy 311 may include vehicle operation feature ID 316 and a related access control rule 317. . . . For example, access control rule 317 may operate to enable, partially enable, or disable the related vehicle operation feature. Access control rule 317 may include advanced criteria relating to the manner and conditions under which the vehicle may be operated."); Jameel '178 at [0098] ("In one embodiment, an owner may specify one or more mileage restrictions associated with a vehicle. If a vehicle rental inquiry includes information indicating that the mileage restriction would be exceeded, then that vehicle may be determined unavailable in operation 320.").

In addition to sharing e-keys, a person of ordinary skill in the art naturally would have known complementary methods for disabling or deactivating e-keys. *See, e.g.*, Saylor '187 at –37:64-38:3 ("In this example, the computing system 308 determines that the Father User had previously extended an electronic key to the Daughter User through the social network service

and determines to revoke the electronic key based on the Daughter User removing the Father User as a connection within the social networking platform."), Fig. 12; Singh '464 at [0068]-[0072] ("The owner of the vehicle will be able to set the privileges for other drivers of the car. The owner will be able to set the following set, but not limited to, of privileges for different drivers: a. Deciding the driving times for other drivers. b. Enabling or disabling the user profiles of other drivers. c. Setting the specific times when other drivers will not be able to use the vehicle. This will be specifically useful when the owner will need the vehicle for his or her own individual use. d. To enable a designated user for one-time use only."); Jameel '178 at [0112] ("In some embodiments, a vehicle driver may elect to cancel a reservation."). It would have also been understood that there were a limited number of ways to make electronic keys temporary, or otherwise to provide the ability to disable an electronic key that has been shared with a temporary user.

Persons of ordinary skill would also have known methods by which recommendations could be provided to a driver for vehicle settings based on patterns in settings made during use of an e-key. *See, e.g.*, Patenaude '106 at [0070] ("In one example, the algorithm can determine a pattern in which a first specific driver turns on a CD player to play a CD of children's songs when a passenger is in a location in the back seat within the time frame of 8:00 AM to 8:15 AM. The algorithm can also determine a pattern in which the first specific driver turns on a FM radio station after the MVCU 110 is powered-up within the time frame of 8:30AM to 8:45 AM and there is no passenger in the MVCU 110. Such a pattern is possible if, for example, the first driver drops a child off at day-care center on the way to work."), Figs. 4, 6; Ingrassia '938 at [0042] ("In some embodiments, to identify recommended radio stations, radio station information can be determined and then compared to user preferences, radio presets for other locations, or both."),

Fig. 5; Kleve ’053 at [0050] (“At 324, the Temporary User may have vehicle preset settings applied when renting a vehicle. These enhancements may include, but not limited to providing the Temporary User with stored frequent destinations sent to the VCS, radio presets, seat and mirror position, and ambient lighting preferences. The personalization of returning user's may also include a “bread crumb” feature allowing users to mark their usage to leave future users recommendations including which restaurant to eat at, or which routes to avoid.”); Jameel ’178 at [0173] (“Destination prediction may also be used for targeted advertising. For example, if server 110 and/or vehicle 105 predicts that a driver is going to take a particular route, or approach a particular location or geographic zone, a particular advertisement may be targeted to the driver. Accordingly, if a driver is known to occasionally stop at a WENDY'S restaurant on the way to the grocery store on Saturday afternoons, advertisements and/or promotions from WENDY'S may be delivered on Saturday to that driver. In some embodiments, an advertisement from a competing establishment may also be delivered based on such information (e.g., an advertisement for MCDONALD'S might be targeted to the driver who frequently patronizes WENDY'S). The fact that a driver will be predicted to be on a particular road, or be driving at a particular time of day, etc., may also be used to target advertisements.”); Thayer ’971 at 3:3-7 (“FIG. 1 shows a general block diagram of an adaptive system 10 that automatically selects a particular radio frequency and volume level of a vehicle radio 12 within a vehicle (not shown) at vehicle start-up, based on a vehicle operator's preference at a particular time of day.”); Yamaguchi ’996 at 3:10-14 (“the control system comprises neural networks learning relationships among the control characteristics . . .”); *id.* at 11:18-21 (“[T]he user’s preferred characteristics can immediately be realized in accordance with the driving area, the road conditions, or the feeling of the user at the

moment."); Hoffberg at 108:47-51 ("For such a learning task, a neural network processor may be implemented, as known in the art.").

It was also well-known to these persons of ordinary skill in the art how to implement these functionalities via communications among a user's mobile device, the vehicle, and one or more backend servers to facilitate, among other things, creation and authentication of electronic keys and vehicle usage monitoring. *See, e.g.*, Kleve '053 at [0035] ("In addition to having exemplary processes executed by a vehicle computing system located in a vehicle, in certain embodiments, the exemplary processes may be executed by a computing system in communication with a vehicle computing system. Such a system may include, but is not limited to, a wireless device (e.g., and without limitation, a cellular telephone) or a remote computing system (e.g., and without limitation, a server) connected through the wireless device. Collectively, such systems may be referred to as vehicle associated computing systems (VACS). . . . One of ordinary skill in the art will understand when it is inappropriate to apply a particular VACS to a given solution."); Zaid '816 at 9:62–10:12 ("In various embodiments, the vehicle access control system (e.g., vehicle access control component) is configured to receive a server update to the vehicle access control system from the wireless communication device. In various embodiments, the server update includes a new private key to the vehicle access control system."); Xiao '913 at 2:66–3:11 ("The automobile system may include a personal area network (PAN) communication module on the automobile and configured to connect to a mobile device over a PAN. The system may further include a cellular network communication module on the automobile. The cellular network module may be configured to connect to a server over a cellular network, and to receive, from the server over the cellular network, an automobile command associated with a system onboard the automobile."); Mikan '339 at 9:54–64 ("Key 205B and

computer 210 may be in communication with wireless network 207. In one embodiment, key 205B and computer 210 may communicate with application 209, with master database 208, or, via wireless network 207, with control unit 202 and/or local database 203."); Jameel '178 at [0114] ("Accordingly, in some embodiments, any communication described as being sent from vehicle 105 may be sent directly to (or received directly from) an owner, driver, or other party without having to be relayed through server 110, while in other embodiments, some or all such communications may be relayed through server 110").

Thus, one skilled in the art would have been motivated to develop an electronic key system that uses the combination of these features in the same way allegedly disclosed in the Asserted Patents, and to do so without undue experimentation using methodologies that were commonly understood in the art. The prior art references identified herein, individually and in combination, demonstrate that each of the purported features of the Asserted Patents was known to those of ordinary skill in the art. A person of ordinary skill in the art would have readily understood the advantages of providing a capability for sharing electronic vehicle keys among multiple users, and doing so securely and in a way that allows for permissions/restrictions and/or reporting on use of the vehicle by the recipient, as detailed above. Such a person would have known that this capability would be a basic design feature of such a system to permit sharing of electronic keys to users for limited purposes, at least in a vehicle rental or sharing context, as such a system would require secure distribution of keys and an ability to end or discontinue a sharing session with one user (e.g., to allow use by another). Thus, a person of ordinary skill in the art would have readily recognized and appreciated that including this capability in an electronic vehicle key system would provide functionalities that are desirable, if not necessary, in certain applications.

Further, each of the references cited in Exhibits A, B, and C are directed to the same, or similar, fields of endeavor. In particular, the cited prior art references relate to design of electronic key systems for vehicles, allowing vehicles to be accessed, used, and shared (or rented) by multiple users in a secure and controlled manner. In addition, each reference is directed to solving the same, or similar, problems: enabling access, use, and sharing of vehicles via electronic keys. With these shared goals in mind, and a limited number of options available to assist in achieving that objective, a person of ordinary skill in the art would have been motivated to consider the disclosed techniques and systems and combine their teachings to develop the alleged inventive systems claimed in the Asserted Patents.

Based on Defendants' present understanding of the asserted claims of the Asserted Patent and Plaintiff's Infringement Contentions, those claims are obvious in light of the combinations outlined in Exhibits A, B, and C, each of which yields predictable results.

Some exemplary combinations of references include:

Zaid in view of Patenaude, Xiao, Gilbertson, Ingrassia, Mikan, Jameel, Cahoon, Singh, Umeda, Saylor, Kleve, RelayRides/GM OnStar, Getaround, ZipCar, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

Kleve in view of Patenaude, Xiao, Gilbertson, Ingrassia, Mikan, Jameel, Cahoon, Singh, Umeda, Saylor, Zaid, RelayRides/GM OnStar, Getaround, ZipCar, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

RelayRides/GM OnStar in view of Patenaude, Xiao, Gilbertson, Ingrassia, Mikan, Jameel, Cahoon, Singh, Umeda, Saylor, Kleve, Zaid, Getaround, ZipCar, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

Getaround in view of Patenaude, Xiao, Gilbertson, Ingrassia, Mikan, Jameel, Cahoon, Singh, Umeda, Saylor, Kleve, RelayRides/GM OnStar, Zaid, ZipCar, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

SmartStart in view of Patenaude, Xiao, Gilbertson, Ingrassia, Mikan, Jameel, Cahoon, Singh, Umeda, Saylor, Kleve, RelayRides/GM OnStar, Getaround, ZipCar, AutoLinQ, Zaid, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

Umeda in view of Patenaude, Xiao, Gilbertson, Ingrassia, Mikan, Jameel, Cahoon, Singh, Zaid, Saylor, Kleve, RelayRides/GM OnStar, Getaround, ZipCar, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

Xiao in view of Patenaude, Zaid, Gilbertson, Ingrassia, Mikan, Jameel, Cahoon, Singh, Umeda, Saylor, Kleve, RelayRides/GM OnStar, Getaround, ZipCar, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

Mikan in view of Patenaude, Xiao, Gilbertson, Ingrassia, Zaid, Jameel, Cahoon, Singh, Umeda, Saylor, Kleve, RelayRides/GM OnStar, Getaround, ZipCar, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

Sekiyama in view of Patenaude, Zaid, Gilbertson, Ingrassia, Mikan, Jameel, Cahoon, Singh, Umeda, Saylor, Kleve, RelayRides/GM OnStar, Getaround, ZipCar, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

Nomura in view of Patenaude, Xiao, Gilbertson, Ingrassia, Mikan, Jameel, Cahoon, Singh, Umeda, Saylor, Kleve, RelayRides/GM OnStar, Getaround, ZipCar, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Zaid.

ZipCar in view of Patenaude, Xiao, Gilbertson, Ingrassia, Mikan, Jameel, Cahoon, Singh, Umeda, Saylor, Kleve, RelayRides/GM OnStar, Getaround, Zaid, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

AutoLinQ in view of Patenaude, Xiao, Gilbertson, Ingrassia, Mikan, Jameel, Cahoon, Singh, Umeda, Saylor, Kleve, RelayRides/GM OnStar, Getaround, ZipCar, Zaid, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

Cahoon in view of Patenaude, Xiao, Gilbertson, Ingrassia, Mikan, Jameel, Zaid, Singh, Umeda, Saylor, Kleve, RelayRides/GM OnStar, Getaround, ZipCar, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

Tucker in view of Patenaude, Xiao, Gilbertson, Ingrassia, Mikan, Jameel, Zaid, Singh, Umeda, Saylor, Kleve, RelayRides/GM OnStar, Getaround, ZipCar, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Cahoon, Perry, Cazanas, and/or Nomura.

Hyundai Blue Link in view of Patenaude, Xiao, Gilbertson, Ingrassia, Mikan, Jameel, Cahoon, Singh, Umeda, Saylor, Zaid, Kleve, RelayRides/GM OnStar, Getaround, ZipCar, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

Kia UVO in view of Patenaude, Xiao, Gilbertson, Ingrassia, Mikan, Jameel, Cahoon, Singh, Umeda, Saylor, Zaid, Kleve, RelayRides/GM OnStar, Getaround, ZipCar, AutoLinQ, SmartStart, Sekiyama, Yamaguchi, Thayer, Tucker, Perry, Cazanas, and/or Nomura.

Defendants reserve the right to further specify the motivations to combine the prior art in response to positions that Plaintiff may take later in this case and as fact, expert, and third--party discovery proceeds. Defendants may rely on any and all portions of the prior art, the accompanying exemplary claim charts, other documents, and expert testimony to establish that a person of ordinary skill in the art would have been motivated to modify or combine the prior art

so as to render the claims invalid as obvious.

B. Regarding the User Profile Patents ('244 and '268 Patents)

Prior to the alleged invention of the Asserted Patents, persons of ordinary skill in the art were well aware of user profile technologies for applying desired settings for vehicles, for example in the context of vehicle rental and sharing systems. *See, e.g.*, Xiao '989 at [0023] ("System 100 may also communicate with the automobile, over a network, to apply automobile system settings based on preferences contained in an operator profile."); Zellner '789 at [0005] ("At least one embodiment of a method includes receiving a request from an environment for preference information related to a user, receiving a user identifier from the environment, the user identifier obtained via a portable user device, and determining at least one user preference related to the user. Other embodiments include determining capabilities related to the environment and communicating at least one user preference to the environment."); Jensen '282 at 2:39-58 ("a system for managing and deploying software functionality to a vehicle client including a server including a user preference list, a communication tier, applications for receiving a request from the vehicle client, the request identifying the particular user preference and applications for deploying the selected plurality of services and the plurality of service directories in the particular user's preference list to the vehicle client in response to a request from the vehicle client.")

Such persons of ordinary skill would also have known of methods by which user profiles containing settings could have been transferred to and from a server relating to vehicle use, particularly in the context of vehicle rental or sharing applications. *See, e.g.,* Xiao '989 at [0024] ("As shown in FIG. 1, system 100 may include a mobile system 102, an automobile service system 104, and a local system 106 in communication over the Internet 108."); Zellner '789 at [0067] ("Additionally, in at least one nonlimiting example, the local network 310 can query the remote network 210 regardless of whether the user's preference data is stored at the local network

310. More specifically, the local network 310 can be configured to query the remote network 210 for updates to the user's preference information, as well as other information that may be inconsistent between the local network 310 and the remote network 210."); Jensen '282 at 4:25-30 ("FIG. 1 is a diagram showing an exemplary wireless telematics system 100, in accordance with an embodiment of the present invention. As shown in FIG. 1, the wireless telematics system 100 includes a telematics server 102 in communication with a vehicle client 104 via a wireless network 106.").

Persons of ordinary skill in the art were also well aware of how to implement these functionalities via communications among a user's mobile device, the vehicle, and one or more servers that facilitate, among other things, the storage, compatibility analysis, and transfer of user profiles. *See, e.g.,* Xiao '989 at [0045] ("Cellular network communication module 404 may be configured to receive automobile commands from automobile service system 104. And, in response, cellular network communication module 404 may broadcast the automobile command on automobile network 420 for execution by one or more of modules 406-418."); Zellner '789 at [0082] ("The tabs include car, home, office, gym, hotel, and other options. More specifically, in the nonlimiting example of FIG. 7, a website user's primary automobile is listed. Additionally listed are various configurable options that the website user can set for that environment. Also included in the nonlimiting example of FIG. 7 is a "car options" option, a "my options" option, and a "change my settings" option."); Jensen '282 at 5:8-18 ("Broadly speaking, the preference storage 120 is a storage of user preferences that can be made available to the computing platform executing the vehicle client 104. In addition, the vehicle client 104 can cache a portion of, or the entire contents of, the user's preference data stored in the preference storage 120. As above, a user may access the telematics server 102 via a web application to update their user preferences.

Thereafter, the vehicle client 104 may request the updated user preferences from the preference storage 120. In this manner, a user can update their user preferences without having to utilize a limited vehicle computing platform interface."); Cazanas at 13:31-52 ("For instance, if the user profile is established on a first vehicle 14, which is a large car, and the user wishes to apply the stored user profile from the web server 41 using the telematics unit 16 and the network 10 on a second vehicle 14b, which is a small car, the transcoder makes appropriate modifications to the settings, such as the seat position and/or mirror positions, to emulate the user profile settings of the first vehicle 14 in the second vehicle 14b.").

Thus, one skilled in the art would have been motivated to develop a user profile storage and transfer system in the same way allegedly disclosed in the Asserted Patents. The prior art references identified herein, individually and in combination, demonstrate that each of the purported features of the asserted claims was known to those of ordinary skill in the art. A person of ordinary skill in the art would have readily understood the advantages of providing capability for storing and transferring user profile information between vehicle and server, as detailed above. Such a person would have known that this capability would be a basic design feature of such a system to permit transfer of user profile content, at least in a vehicle rental or sharing context. Thus, a person of ordinary skill in the art would have readily recognized and appreciated that including this capability in a user profile system would provide additional features that are desirable in certain applications.

Persons of ordinary skill in the art were also well aware of how to determine compatibility of settings for use with vehicles, or acknowledging that that settings are compatible with settings that are settable in a selected vehicle. *See, e.g.*, Xiao at [0088] ("server 118 may look up a particular command code 632 based on the automobile ID 628 and command ID 630

contained in a command request received from mobile device 110 and/or from a terminal device associated with local system 106"); *id.* at [0103]-[0104] (explaining that command IDs 630 are "associated with the operator's desired system settings 614" and "[t]he appropriate onboard modules 406-418 may then execute the commands by controlling the onboard systems to achieve the operator's desired settings indicated by the profile information 614."); Cazanas at 3:62-67 ("if the user wants to operate a vehicle of a different type, the profile from storage may be transcoded by the server or otherwise modified to produce a scaled version or profile for downloading to the other vehicle to set the configurable components appropriately in the other type of vehicle"); Hayashi at [0023] (recognizing that operating methods may differ between vehicles for the same function); *id.* at Fig. 6 and [0029] (recognizing the concept of compatibility determination by remarking that "[i]f a certain 'vehicle model' does not have a certain 'function,' 'none' may be stored . . . as the operating method . . . ."); Zellner at [0096] ("the website user has defined that the ceiling fan is set to low in the kitchen. As a ceiling fan may not be present in all rooms of the environment, this setting can be listed under the kitchen settings category . . . ."); *id.* at [0111] ("the remote network 210 can determine capabilities related to the environment"); Jensen at 6:27-31 ("[t]he telematic server communication APIs can be used to communicate with client devices supporting a compatible (interoperable) implementation of the corresponding client-side communication APIs, such as vehicle clients."); *id.* at 9:28-35 ("The vehicle client object 310 includes information concerning the vehicle device type and capabilities, the vehicle device owner, and/or the responsible customer (e.g., for billing purposes), and other information as desired by the developer."); Jameel at [0070] ("In some embodiments, certain vehicles may not be displayed as available for rent if a prospective driver has specified requirements that cannot be met, while in other embodiments, one or more vehicles may be offered to a driver even if not all

requirements are met.”). One would have recognized that checking for compatibility would have required nothing more than obtaining the predictable result of added clarity to show that certain vehicles may implement certain functions in a certain way, or if certain functions are not possible on certain vehicles, identifying those instances.

Furthermore, one would have naturally recognized that implementing a known learning engine and related features would have enhanced convenience by automatically determining settings based on a user’s behavior. *See, e.g.*, Patenaude at [0055]-[0056] (a telematics unit “determines patterns in the entertainment selections” of a user, which are based on setting modifications by the user); Chao at [0044] (“The driver profile 262 can represent learning by the profile engine 244 of the behavior, tendencies, and history of a driver.”); Jameel at [0131] (“DLU 475 is configured, in at least one embodiment, to dynamically learn what signals may be needed to control particular vehicle hardware.”); Ingrassia at [0008] (“User preferences can be . . . automatically determined by the user device” and “recommended radio presets can then be defined based on available radio stations which match the user preferences.”); Faenger at [0008] (“The present invention may provide a method for an entertainment system to learn about a user’s musical taste.”); *id.* at [0040] (“According to the selection of songs/creating playlists functionality, since the inventive system has learned about the musical taste of the user, the system may apply this knowledge in selecting songs or creating play lists from music stored on a local storage device or from other above-mentioned sources of music.”); Hoffberg at 106:12-18 (“Thus, an important concept is that the system has at least one object having a plurality of functions, certain of which are unnecessary or are rarely used for various applications or in various contexts, while these are used with greater frequency in other contexts. Further, based upon predetermined protocols and learned patterns, it is possible to predict which functions will

be used and which will not be used."); *id.* at 107:56-62 ("In the case of a single user or group of users, the interface could maintain a history of feature usage for each user, as in the past user history block 2107, and provide a lower user interface level for those features which are rarely used, and therefore less familiar to the user, through the current user level output 2101."); *id.* at 108:49-51 ("For such a learning task, a neural network processor may be implemented, as known in the art."); Thayer at 5:28-33 ("system 10 continually monitors changes that the vehicle operator has made to the radio frequency and volume level so as to update the frequency priority list"); Yamaguchi at 3:10-14 ("the control system comprises neural networks learning relationships among the control characteristics . . ."); *id.* at 11:18-21 ("[T]he user's preferred characteristics can immediately be realized in accordance with the driving area, the road conditions, or the feeling of the user at the moment."). Moreover, it is obvious to automate a manual activity to accomplish the same result.

In addition to replacing a manual process to apply settings with an automatic one to personalize a vehicle, a person of ordinary skill in the art naturally would have known to use complementary methods for removing such personalization. *See, e.g.*, Singh at [0034] ("When the driver will reach his or her destination and will turn the vehicle off, the Controller Unit will also save the changes made by the driver and then unload the user profile of the current driver and will bring the vehicle attributes to default settings."); Sadler at [0003]-[0004] ("Users are required to manually adjust vehicle settings to their comfort level. These settings can be changed by other users and then the original user is required to re-adjust the vehicle."); Thayer at 3:66-4:19 ("the vehicle operator can switch the frequency back to a previous frequency"); Jensen at 8:11-14 ("The connection server 252 establishes, accepts, maintains, and terminates connections over the wireless network. In addition, the connection server 252 interacts with a security server

to maintain secure end-to-end sessions."). Furthermore, it would be an obvious standard business practice of, for example, car rental companies that return the vehicle to a state upon renting completion (turn the radio off, etc.) so the next user is not dealing with undesirable conditions upon entering the vehicle.

Further to using a known learning engine, it would have been obvious to have a system determine recommended settings based on processing by the learning engine, which is a natural and predictable result of using a learning engine according to its known function. *See, e.g.*, Patenaude at [0002]-[0006] (identifying the problem of the then-current art being unable to "determine and predict a user's entertainment selections, such as radio station on an FM radio or a compact disc track of a CD in a CD player," and describing solutions to "determine at least one user entertainment selection profile based on the monitoring and activating entertainment units based on the profile."); Faenger at [0028]-[0029] (discussing a recommended setting being "offered to the user"); Ingrassia at Abstract ("Recommended radio presets can be determined by identifying available radio stations that match the user preferences."); *id.* at [0042]-[0044] ("For example, by monitoring radio stations to which a user listens, the user device can intelligently determine genres, stations, artists, albums, songs, and shows the user may prefer" or by "monitoring a user's playback history" "[t]he radio presets can then be updated to include the recommended radio stations matching intelligently determined user preferences."); Hoffberg at 108: 4-17 ("[T]he device could scan the various available choices for characteristics indicative of one or the other type of programming, and perform a correlation to determine the most appropriate choice(s)."); *id.* at 125:40-63 (describing determining "the most likely current predicted choice" for the user to select on the interface); *id.* at Fig. 17 (showing the step of "Present Most Likely Choices To User"). Before the terms "artificial intelligence" or "AI"

became common parlance, terms like "pattern recognition" were prevalent. *See, e.g.*, Hoffberg at 113:58-67 ("A pattern recognition database system is available from Excalibur Technologies, San Diego, Calif. Further, IBM has had pattern recognition functionality available for its DB/2 database system . . .," referencing citations from the early 1990s). Determining patterns in use of systems by a user while a profile was used would be a natural consequence of using a known learning engine.

Furthermore, it would have been obvious to have patterns be correlated to conditions, such as type of input, time or day inputs, or temperature, or security, or number of occupants in the vehicle, or weather, or age of the vehicle, or service requirements of the vehicle, as these are some of only a limited number of options available for configuring a pattern learning system. *See, e.g.*, Patenaude at [0055] ("The algorithm is operable to search for one or more patterns in the entertainment selections."); *id.* at [0044] (discussing monitoring conditions such as "vehicle factors" which include "for example, one or more of the following: the number of passengers, locations of passengers, location of the MVCU 110 at power-up, a location of the MVCU 110 when the entertainment selection occurs, the key used to power-up the vehicle . . ."); *id.* at [0054] (discussing selection time factors, including "time of day of the entertainment selection, a day of the week of the entertainment selection, a week of month of the entertainment selection, and a date of the entertainment selection."); Rector at [0008] ("Further, the settings may be influenced by the number or identities of passengers within the smart vehicle."); *id.* at [0036] ("Further settings may be based upon the time of day."); Ingrassia at [0007] ("In some embodiments, the user device can determine a recommended set of radio presets by comparing radio station information for the current location with user preferences."); Thayer at 1:7-12 ("This invention relates generally to an adaptive learning system that sets a radio frequency and volume level of a

vehicle radio and, more particularly, to an adaptive learning system that sets a vehicle radio frequency and volume level at vehicle start-up based on a vehicle operator's preference at particular times of day."); Hoffberg at 125:40-44 ("Thus, if the user has only used the VCR to record, e.g., the National Broadcasting Company (NBC) 11 o'clock news, i.e., record all days from 11:00 p.m. to 11:30 p.m. on NBC, in the past, the most likely current predicted choice would be the NBC 11 o'clock news."). It would be obvious to analyze such patterns for similarities, as doing so is one of a limited number of options available for analyzing patterns. *See, e.g.*, Hoffberg at 97:55-62 ("The present device allows common user mistakes to be recognized and possibly addressed"); *id.* at 124:64-125:3 ("In another embodiment, a normal user of the system need not identify himself; rather, the system develops composite profiles of the set of regular users, and infers necessary personalization parameters from the nature of the interaction."); Faenger at [0038] ("The list of available stations may be filtered and sorted according to the user's musical preferences. In one embodiment, only stations that have a minimum level of similarity to the user's musical taste are offered as selection options."); *id.* at [0049] (discussing "consider[ing] both User 1's music preferences and the preferences indicated by the new music collection" of another user). Considering a user's history of use would be another one of the limited number of options available for analyzing patterns. *See, e.g.*, Ingrassia at [0044] ("the user's preferences can be intelligently determined by monitoring a user's playback history"); Hoffberg at Abstract ("An adaptive interface for a programmable system, for predicting a desired user function, based on user history"); *id.* at 107:40-62 ("In the case of a single user or group of users, the interface could maintain a history of feature usage for each user, as in the past user history block 2107 . . ."); Chao at [0044] ("The driver profile 262 can represent learning by the profile engine 244 of the behavior, tendencies, and history of a driver."); Faenger

at [0028] (The "processor 18 may determine that the user has historically given high rating, or otherwise positive feedback, in response to songs by the Beatles").

Along with determining a recommended setting, it is only natural that one would have such recommended setting be applied to the vehicle when the vehicle is being used with the user profile. *See, e.g.*, Faenger at [0028] (discussing, for example, "a selection of music 26 that is offered to the user"); *id.* at [0036] ("The system may . . . place the most similar stations on the pushbutton presets or on a station list."); Patenaude at [0062] ("During stage S506, the telematics unit 120 powers-up at least one entertainment unit 135, 136, or 137 based on the retrieved user entertainment selection profile. The processor 122 transmits a power-up signal to the one or more entertainment units 135, 136, and 137 operable to turn on the entertainment units 135, 136, and 137."); Ingrassia at [0055] ("[T]he recommended radio presets can be loaded by, for example, populating a set of hot keys with the radio frequencies associated with the recommended radio presets."). This could be in the form of an accepted recommendation, as one of a limited number of options available for doing so. *See, e.g.*, Hoffberg at 121:27-49 ("Using a predictive technology, such as Boolean logic, fuzzy logic, neural network logic, or other type of artificial intelligence, a most probable choice may be presented to the user for his approval"); *id.* at 126:40-42 ("In this case, the user selects the "reject" selection, and the system presents the user with a next predicted desired menu choice.")

Additionally, one would also have known to make a profile transferrable to one or more other vehicles from a cloud services system to further reduce driver distractions and improve safety. *See, e.g.*, Yassin at 3:24-40 ("the present invention allows selecting the vehicle to be used by the user from a plurality of vehicles"); *id.* at 6:65-67 ("In this manner, and in accordance with the present invention, the RFID tag can be used in association with any of a variety of vehicles in

a variety of locations."); Cazanas at 2:9-29 ("[T]he mobile communications for the on-board units support communications of a driver's profile with one or more settings for user configurable features to/from one or more of the vehicles, e.g. uploading of a profile created on one vehicle and downloading to another vehicle."); Jensen at 9:24-28 ("In addition, the vehicle client object 310 can represent a logical vehicle client device to allow, for example, a user to keep their same vehicle client object 310 even though the user has a new car with a new vehicle client device."); Rector at [0028] ("vehicle" includes "cars, trucks, and buses . . ."); Xiao at [0022] ("In general, system 100 may provide a wireless automobile key service to one or more owners of one or more automobiles."); Zellner at [0063] ("as illustrated in the nonlimiting example of FIG. 3, environments 102c, 102d, and 102e are coupled to local network 310"); *id.* at [0087] ("More specifically, a website user can select to apply the user preferences to all automobiles, only this automobile, or automobiles that the user has selected.").

One would further have sought to improve convenience and safety by capturing a user's changes to his/her settings and communicating them to a server, alleviating the need for the user to adjust components to implement his/her changed settings the next time he or she uses the same or a different vehicle. *See, e.g.*, Yassin at 6:14-16 ("the driver continues to operate the vehicle 11, during which time the driver can alter various settings"); *id.* at 7:9-21 (explaining that upon completing his/her operation of the vehicle, the driver's changes to her settings/profile are communicated to the server and the "server updates the profile database for the driver"); Zellner at [0082] ("Also included in the nonlimiting example of FIG. 7 is a 'car options' option, a 'my options' option, and a 'change my settings' option."); *id.* at [0097] ("Additionally listed in the my settings window 1370 is a 'change my settings' option, an 'add/remove room' option, a 'my

options' option, and a 'home options' option."); Xiao at [0079] ("In some embodiments, the operator may set operator profile information 614 from automobile 112.").

Persons of ordinary skill in the art were also well aware of how to verify a user for accessing a profile associated with a user account. *See, e.g.*, Xiao at [0095] ("Mobile device 110 may then transmit the authentication information, and optionally the mobile ID 304, to automobile service server 118 over cellular network 114. Server 118 may check the provided authentication information against the authentication information 612 corresponding to the mobile ID 610 and/or the operator ID 608 in the stored account information."); Zellner at [0081] ("As one of ordinary skill in the art will understand, any authentication process can be implemented including biometric authentication, as well as receipt of a user identifier from specific user device 106."); Kleve at [0049] ("The system may be further extended to facilitate the virtual key with additional security by requiring remote credential verification at the vehicle."); Rector at [0047] ("These backup means for driver and passenger identification introduce a redundancy to the present invention, allowing the settings control system to verify that the correct party is determined to be the driver and appropriate settings are enforced"); Singh at [0034] ("The Controller Unit will control the validation of the driver by verifying his password, finger impression recording and matching process, accessing the operator database to locate the user files based on the User Profile and then applying the settings according to the preference of the driver."); Sadler at [0026] ("Authorized users would store mathematical models of their lightprints in the memory of the BIS for future verification."); Jameel at [0068] ("Additional checks may be performed, and may include verifying third party certifications and/or credentials."); Jensen at 8:24-30 ("Generic security can also be provided by the telematic

server architecture 250. For example, security features can include authentication, authorization, encryption, and session management.”).

Additionally, one would have known that providing instructions to software and/or hardware would be a natural part of transferring settings to a vehicle, or an obvious extension thereof. *See, e.g.*, Kleve at [0050] (“At 324, the Temporary User may have vehicle preset settings applied when renting a vehicle.”); *id.* at [0060] (“A remote communication module in the vehicle 421 receives the signal sent from the server(s) 401 and processes it or relays it to an appropriate processing system within the vehicle 421.”); Xiao at [0039] (“In one embodiment, modules 402-418 may embody one or more computers onboard automobile 112 and configured to perform or control various automotive functions. . . . In other embodiments, however, modules 402-418 may be software modules of a computer program executing on an automobile computer.”); Jameel at [0039] (“Vehicles 105 may include various hardware and/or software . . .”); *id.* at [0051] (“Vehicles 105 may be installed with particular hardware and/or software to perform certain functions.”); Zellner at [0087] (“Second, a user can simply communicate that a user desires a certain type of environment, to which the system can apply to various environments.”); *id.* at [0135] (“One should note that the flowcharts included herein show the architecture, functionality, and operation of a possible implementation of software.”); Rector at [0010]-[0011] (discussing “implementing the settings” and describing client logic to “implement the permitted settings”); *see also id.* at claim 1 (“a server logic on the settings server to associate the unique identifier with the user account, determine the permitted settings for the user, and transmit the permitted settings to the client logic, wherein the client logic limits functions of the smart vehicle based upon the permitted settings.”).

One would understand that a cloud-based system includes one or more data centers, such as a center including multiple computing systems that provide processing power to execute computer readable programs. *See, e.g.*, Hart at 4:3-9 ("The vehicle monitoring service can, for example, be a subscription service that provide[s] long term storage of profile data of subscribers, and provides some of the end-client features described below as an 'in the cloud' service."); Chao at [0083] ("For example, the second device 506 can represent real or virtual servers in a single computer room, distributed across different rooms, distributed across different geographical locations, embedded within a telecommunications network, or virtualized servers within one or more other computer systems including grid or cloud type computing resources."); Kleve at [0056] ("This communication is relayed through a network 406 (e.g., without limitation, cloud computing, the internet[]) to a centralized system 401."); Mikan at 3:60-4:10 ("Core network 124 comprises a host of various network elements. As illustrated here, core network 124 may comprise Mobile Switching Center ('MSC') 125, Service Control Point ('SCP') 126, gateway MSC 127, SGSN 130, Home Location Register ('HLR') 129, Authentication Center ('AuC') 128, Domain Name Server ('DNS') 131 and GGSN 132."); Patenaude at [0018] ("Mobile vehicle communication system (MVCS) 100 includes . . . one or more call centers 170.").

Along similar lines, it would have been obvious to make a profile transferrable to one or more other vehicles from a cloud services system. *See, e.g.*, Yassin at 1:6-4:54 (discussing "sending information regarding the personalization of vehicle settings" to multiple vehicles, and "selecting the vehicle to be used by the user from a plurality of vehicles"); *id.* at 6:60-64; Zellner at [0063] ("More specifically, as illustrated in the nonlimiting example of FIG. 3, environments 102c, 102d, and 102e are coupled to local network 310. Local network 310 is also coupled to communications network 200, which is coupled to remote network 210 (which can include a

remote provisioning system).”); Xiao at [0024] (“Mobile system 102 may include one or more mobile devices 110 and one or more automobiles 112 configured to communicate on a cellular network 114.”); Kleve at [0006] (“As stated in U.S. Pat. No. 6,975,997, a system for sharing a fleet of vehicles among a plurality of users, . . . The sharing system comprises a control computer that assigns vehicles in response to requests by users, and monitors system performance of the rented vehicle.”); *id.* at [0081] (“The vehicle rental authorization system may have one or more databases with a list of vehicle owners and rental vehicles available.”); Jensen at 6:27-31 (“The telematic server communication APIs can be used to communicate with client devices supporting a compatible (interoperable) implementation of the corresponding client-side communication APIs, such as vehicle clients.”); Jameel at [0037]-[0038] (describing “vehicles 105A-105C are in communication with a server 110 via network connections 107” and such vehicles “include an assortment of cars and trucks.”).

As with any system that receives user inputs for adjustable settings, it would have been obvious to have a system receive communication from a vehicle regarding inputs made to its systems during use while the vehicle is associated with a profile. *See, e.g.*, Yassin at 7:19-21 (“Finally, the profile tag server updates the profile database for the driver, based on the updated driver vehicle preferences 20, ending the procedure 12.”); Ingrassia at [0018] (“User device 100 can also include one or more of user input mechanisms 108 and 110.”); *id.* at [0008], [0021], [0033], [0037], [0055] (discussing determining “recommended radio presents” based on user preferences manually entered by the user or automatically determined from the user’s past inputs); Faenger at [0028] (“Processor 18 may run one or more algorithms for creating a music filter 20 based on information gathered from collection 14 and/or from feedback 16.”); *id.* at [0008], [0043]-[0046] (discussing “active feedback” and “passive feedback” which may include

the user's manipulation of the radio, and may be used to "adapt or modify the previously-learned user's musical preference profile accordingly."); Hoffberg at 125:64-65 ("[T]he system may define an interest profile of the user, based on explicit or implicit selections."); *id.* at 126:60-65 ("When the programming is completed, the interface then updates its user database . . . ."); Thayer at 4:2-7 ("Any manual adjustments to the volume control switch 24 by the vehicle operator are transmitted to the microprocessor 14 so that the microprocessor 14 can calculate and store an average volume level of the vehicle operator's preference at that time of day. In this manner, the microprocessor 14 updates a preferred volume level setting of the vehicle operator."); Zellner at [0047] ("Additional embodiments can include a system configured to collect and store user data, based on actions taken in the proximity of an environment.").

Along with sending or receiving such communication of changes to settings, it would have been obvious to determine to update profiles associated with the changes. *See, e.g.*, Patenaude at [0049] ("[T]he telematics unit 120 determines at least one user entertainment selection profile based on the monitoring of entertainment selection and vehicle factors."); *id.* at [0053] ("The updating entertainment unit factors are saved in the in-vehicle memory 128."); Kleve at [0043] ("At step 226, if the Temporary User decides that he may need to purchase additional rental time, the system may update the new rental period end time restriction and continue to monitor usage of the vehicle."); Zellner at [0098] ("any action a user takes in the environment can be sent to the remote network 210"); Singh at [0062] ("MODIFYING THE FEATURES AND SERVICES: The current invention enables each driver of the vehicle to make changes to their preference files by means of the Graphical User Interface. The driver can make changes to any or all of the files as per requirements. . . . The Controller Unit records all the modifications to the address file by means of the control program and prompts the user to save

changes just when the driver completes the task."); Sadler at [0104] ("If desired, the Secure Vehicle Entry system can be dynamically reconfigured to authorize different users at different times.").

Further, each of the references cited in Exhibits D and E are directed to the same, or similar, fields of endeavor. In particular, the cited prior art references relate to design of information sharing systems between vehicles, servers, and mobile devices, allowing vehicles to be customized for use based on applicable parameter settings. In addition, each reference is directed to solving the same, or similar, problems: storing and transferring user profile content. With these shared goals in mind, and a limited number of options available to assist in achieving that objective, a person of ordinary skill in the art would have been motivated to consider the disclosed techniques and systems and combine their teachings to develop the systems allegedly claimed in the Asserted Patents.

Some exemplary combinations of references include:

Kleve in view of Rector, Zellner, Xiao, Chao, Jensen, Mikan, Sadler, Jameel, Singh, Hart, Yassin, Patenaude, Ingrassia, Hayashi, Faenger, Hoffberg, Cazanas, Thayer, and/or Yamaguchi.

Jameel in view of Rector, Zellner, Xiao, Chao, Jensen, Mikan, Sadler, Singh, Hart, Yassin, Kleve, Patenaude, Ingrassia, Hayashi, Faenger, Hoffberg, Cazanas, Thayer, and/or Yamaguchi.

Jensen in view of Rector, Zellner, Xiao, Chao, Mikan, Sadler, Jameel, Singh, Hart, Yassin, Kleve, Patenaude, Ingrassia, Hayashi, Faenger, Hoffberg, Cazanas, Thayer, and/or Yamaguchi.

Mikan in view of Rector, Zellner, Xiao, Chao, Jensen, Sadler, Jameel, Singh, Hart, Yassin, Kleve, Patenaude, Ingrassia, Hayashi, Faenger, Hoffberg, Cazanas, Thayer, and/or Yamaguchi.

Zellner in view of Xiao, Rector, Chao, Jensen, Mikan, Sadler, Jameel, Singh, Hart, Yassin, Kleve, Patenaude, Ingrassia, Hayashi, Faenger, Hoffberg, Cazanas, Thayer, and/or Yamaguchi.

Xiao in view of Zellner, Rector, Chao, Jensen, Mikan, Sadler, Jameel, Singh, Hart, Yassin, Kleve, Patenaude, Ingrassia, Hayashi, Faenger, Hoffberg, Cazanas, Thayer, and/or Yamaguchi.

Rector in view of Zellner, Xiao, Chao, Jensen, Mikan, Sadler, Jameel, Singh, Hart, Yassin, Kleve, Patenaude, Ingrassia, Hayashi, Faenger, Hoffberg, Cazanas, Thayer, and/or Yamaguchi.

Cazanas in view of Zellner, Rector, Xiao, Chao, Jensen, Mikan, Sadler, Jameel, Singh, Hart, Yassin, Kleve, Patenaude, Ingrassia, Hayashi, Faenger, Hoffberg, Thayer, and/or Yamaguchi.

Based on Defendants' present understanding of the asserted claims of the Asserted Patent and Plaintiff's Infringement Contentions, those claims are obvious in light of the combinations outlined in Exhibits D and E, each of which yields predictable results.

Defendants reserve the right to further specify the motivations to combine the prior art in response to positions that Plaintiff may take later in this case and as fact, expert, and third--party discovery proceeds. Defendants may rely on any and all portions of the prior art, the accompanying exemplary claim charts, other documents, and expert testimony to establish that a person of ordinary skill in the art would have been motivated to modify or combine the prior art

so as to render the claims invalid as obvious.

IV. P.R. 3-3(d): Invalidity Under 35 U.S.C. § 112

Pursuant to P.R. 3-3(d) and the Court's Order, Defendants identify below the grounds upon which certain asserted claims of the Patents-in-Suit are invalid under 35 U.S.C. § 112, paragraphs one, two, and/or four.

Each dependent claim that depends from any of the following claims of the Asserted Patents is also invalid under § 112 for similar reasons.

Exhibits identifying the bases for invalidity under § 112 are provided at the below exhibits:

Patent No.	Exhibit Nos.
10,407,026	A-112
11,738,659	B-112
9,365,188	C-112
9,171,268	D-112
11,396,244	E-112

V. Invalidity Under 35 U.S.C. § 101

Pursuant to the Court's Standing Order regarding subject matter eligibility contentions, Defendants identify below the grounds upon which certain asserted claims of the Patents-in-Suit are invalid under 35 U.S.C. § 101. The exhibits identified below describe the exceptions to eligibility to which each Challenged Claim is directed and the factual and legal basis therefore.

Exhibits identifying the bases for invalidity under § 101 are provided at the below exhibits:

Patent No.	Exhibit Nos.
10,407,026	A-101
11,738,659	B-101
9,365,188	C-101
9,171,268	D-101
11,396,244	E-101

As shown in Exhibits Nos. A-101 to E-101, at the relevant time, the Challenged Claims were well understood, routine, and conventional in this industry. The exhibits above identify the basis for each element of each Challenged Claim, both individually and in combination with the other elements of that claim, as being well understood, routine, and conventional in the industry at the relevant time.

VI. Accompanying Document Production

Pursuant to P.R. 3.4, the Toyota Defendants produce TOYOTA-00073667 - TOYOTA-00075957, which includes documents demonstrating the operation of the accused products. The Toyota Defendants and Kia Defendants jointly produce DEFSPRIORART-00000001-DEFSPRIORART-00001582, and the Kia Defendants produce KIA-EA0042264-KIA-EA0042797, which include prior art references that do not appear in the file histories of the Patent-in-Suit, to the extent such information is available to Defendants at the present time. The production includes prior art references that are cited in and support the accompanying exemplary invalidity claim charts and are evidence of the state of the art at the time of the alleged invention(s). The production also includes additional prior art references, not cited in the accompanying invalidity contentions, that evidence the state of the art at the time of the alleged invention(s). For certain foreign references, Defendants have obtained and provided translations

to give Plaintiff fair notice of the art. Defendants reserves the right to supplement these contentions to rely on further content from certified translations of those same references.

Defendants' search for prior art references, additional documentation, and/or corroborating evidence concerning prior art systems is ongoing. Defendants reserve the right to continue to supplement their production as Defendants obtain additional prior art references, documentation, and/or corroborating evidence concerning invalidity during the course of discovery.

Dated: March 28, 2024

Respectfully submitted,

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IPR2024-00981
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CERTIFICATE OF SERVICE

The undersigned certifies that on March 28, 2024, a true and correct copy of the above document was served on all counsel of record via electronic mail.

/s/ James R. Barney
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